

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT  
(Not for submission under 37 CFR 1.99)**

Application Number	09/785944
Confirmation Number	7227
Filing Date	February 16, 2001
First Named Inventor	Martin E. FERMANN
Art Unit	2828
Examiner Name	Hrayr Sayadian
Attorney Docket Number	IMRAA.01501-IM72C

**U.S. PATENTS**

Examiner Initials*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	US03859873		1/7/1975	Schultz	
	2	US04923279		5/8/1990	Ainslie	
	3	US05121460		6/9/1992	Tumminelli	
	4	US05253322	A	10/12/1993	Onishi	
	5	US05319652	A	6/7/1994	Moeller	
	6	US05363234	A	11/8/1994	Newhouse	
	7	US05572618	A	11/5/1996	DiGiovanni	
	8	US06327403	B1	12/4/2001	Dananger	
	9	US06574406	B2	6/3/2003	Ainslie	

**U.S. PATENT APPLICATION PUBLICATIONS**

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	1					

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>4</sup>	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
	1	EP01662624		A1	5/31/2006	Razdobrev		
	2	WO08705118		A1	8/27/1987	Mortimore		
	3	WO08910332		A1	11/2/1989	Forrester		
	4	WO09726571		A2	7/24/1997	Kashyap		
	5	WO09842050		A1	9/24/1998	Grubb		

**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published.	T <sup>5</sup>
	1	B.J. AINSLIE et al.; "The absorption and fluorescence spectra of rare-earth ions in silica-based monomode fiber," J. Lightwave Technol. 6, 287-293 1988	
	2	ALVAREZ-CHAVEZ et al.; "Mode selection in high power cladding pumped fibre lasers with tapered selection", Conf. on Lasers & Electro-Optics Tech. Digest 1999, paper CWE7	
	3	S. ARAMAKI et al.; "Revised Phase Diagram for the system Al <sub>2</sub> O <sub>3</sub> -SiO <sub>2</sub> ", J of the American Ceramic Society Vol 45 Is 5 May 1962 p 229-242	

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	4	Y. BEAUDOIN et al.; "Ultra-high-contrast Ti:sapphire/Nd:glass terawatt laser system", Optics Letters, Vol. 17, Iss. 12, pp. 865-867 (1992)	
	5	A.L.G. CARTER et al.; "Flash-condensation technique for the fabrication of high-phosphorus-content rare-earth-doped fibres", Electronics Letters Vol. 28, Is 21, pp. 2009-2011 8 Oct 1992	
	6	M.L. DENNIS et al.; "2-W upconversion laser in TM:ZBLAN fiber", Conf. on Lasers & Electro-Optics CLEO Technical Digest Vol 8, p. 41, 1994.	
	7	M.L. DENNIS et al.; "Upconversion-pumped thulium-fiber laser at 810 nm", Optical Fiber Communications Conference OFC '94 Technical Digest WK10, 1994	
	8	J.A. DOBROWOLSKI et al.; "Colored filter glasses: an intercomparison of glasses made by different manufacturer", Applied Optics, Vol. 16, Iss. 6, pp. 1491-1512 (1977)	
	9	E. M. ERBE et al.; "Properties of Sm <sub>2</sub> O <sub>3</sub> -Al <sub>2</sub> O <sub>3</sub> -SiO <sub>2</sub> glasses for in vivo applications", in Journal American Ceramic Society 73 (9), p. 2708-2713, 1990.	
	10	M.C. FARRIES et al. "A Samarium Doped Visible Glass Laser Operating at 651 nm", Proc. CLEO, Anaheim, California, Paper PD5, pp. 1-2, 1988	
	11	M.C. FARRIES et al. "The Properties of the Samarium Fibre Laser", Fiber Laser Sources and Amplifiers, SPIE 1171, p. 271-278 1989	
	12	M.C. FARRIES et al. "Samarium <sup>3+</sup> -Doped Glass Laser Operating at 651 nm", Electronics Letters Vol 24 No 11, May 26, 1988 p 709-711	
	13	M.C. FARRIES et al. "Spectroscopic and Lasing Characteristics of Samarium doped Glass Fibre", IEEE Proceedings Vol 137, Pt. J, No. 5 October 1990 p 318-322	
	14	M.C. FARRIES et al. "Very high-rejection optical fibre filters", Electronics Letters Vol 22, Is 21 page(s): 1126-1128 October 9 1986	
	15	A. A. FOTIADI, "Dynamics of All-Fiber Self-Q-switched Erbium/Samarium Laser", CLEO 2007 paper CMc4	
	16	GALVANAUSKAKS, "Mode-Scalable Fiber Based Chirped Pulse Amplification Systems", Selected Topics in Quantum Electronics, IEEE Journal on, Vol. 7 Issue: 4, Jul/Aug 2001 Page(s): 504 -517	
	17	D. GLOGE, "Weakly Guiding Fibers", Applied Optics Vol. 10, No. 10, pp. 2252-2258, October 1971	
	18	J.P. KOHLI et al.; "Formation and properties of rare earth aluminosilicate glasses", Kohli J.T., Shelby, J.E. Physics and Chemistry of Glasses 32, Is 3 (June), pp. 67-71, 1991.	
	19	J.P. KOHLI et al.; "Magneto-optical properties of rare earth aluminosilicate glasses", Kohli J.T., Shelby, J.E. Physics and Chemistry of Glasses 32, Is 3 (June), pp. 109-114, 1991.	
	20	S-K LIAW et al.; "Passive gain-equalized wide-band erbium-doped fiber amplifier using samarium-doped fiber", Photonics Technology Letters, IEEE, Vol. 8, Is. 7 page(s): 879-881 July 1996	
	21	HR Müller et al.; "Fibers for high-power lasers and amplifiers", Comptes Rendus Physique, Volume 7, Issue 2, March 2006, Pages 154-162	

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	22	R.A. MYERS et al.; "Effect of Hydrogen Loading on Temperature electric Field Poling of SiO <sub>2</sub> -Based Thin-Films On Si", ELECTRONICS LETTERS Vol. 31 Iss.18 Pages: 1604-1606 Published: AUG 31 1995	
	23	R.A. MYERS et al.; "Stable second-order nonlinearity in SiO <sub>2</sub> -based waveguides on Si using temperature/electric-field poling", Proceedings of SPIE 2289, pp. 158-166 (1994)	
	24	T.B. NORRIS "Femtosecond pulse amplification at 250 kHz with a Ti:sapphire regenerative amplifier and application to continuum generation," OPTICS LETTERS Vol. 17, No. 14, p 1009-1011 July 1992	
	25	R. PASCHOTTA et al.; "Lifetime quenching in Yb-doped fibres", Optics Communications Vol. 136, April 1, 1997 p 375-378	
	26	H. PO et al.; "Double-clad high brightness Nd fiber laser pumped by Ga/As phased array", Proceedings of Optical Fiber Communication '89, Postdeadline paper PD7, 1989	
	27	REED et al.; "30-FS Pulses Tunable Across The Visible With A 100-Khz Ti-Sapphire Regenerative Amplifier", OPTICS LETTERS Vol. 20 Is. 6 Pages: 605-607 Published: MAR 15 1995	
	28	J-K RHEE et al.; "Chirped-pulse amplification of 85-fs pulses at 250 kHz with third-order dispersion compensation by use of holographic transmission gratings", Optics Letters Vol 19 no 19 oct. 1, 1994 p 1550-1552	
	29	C. ROUYER et al.; "Generation of 50-TW femtosecond pulses in a Ti:sapphire/Nd:glass chain", Optics Letters 18 Iss 3, 214-216 (1993)	
	30	U.C. RYU et al.; "In-line gain control of the erbium doped fiber amplifier using samarium doped inner-cladding in the 1.5 µm region", OSA/ Optical Fiber Communication 2000 paper WA4-1	
	31	A. SAISSY et al., "Properties of Sm <sup>3+</sup> ions in Fluorozirconate fiber", Applied Optics Vol. 36 No. 24, p 5951 Aug. 20 1997	
	32	J. SAKAI et al.; "Bending loss of propagation modes in arbitrary-index profile optical fibers", Applied Optics 17, 1499-1506 1978	
	33	S7010N Material Safety Data Sheet for SCHOTT AG, Passive Glasses Laser Cavity Materials, dated 03-15-2001	
	34	S7010N Property Sheet, SCHOTT AG, Passive Glasses Laser Cavity Materials	
	35	P. SCHULTZ, "Optical Absorption of the Transition elements in Vitreous Silica", J of the American Ceramic Society Vol 57, Is 7 July 1974 p 309-313	
	36	B. SHINER et al.; "Fibre sources target automotive industry", Opto & Laser Europe, Jan 7th 2003 article #16625 optics.org	
	37	O. SVELTO, "Principles of Lasers", 4th Edition (Translated by D. C. Hanna), p 480-483 Springer Science and Business Media, Inc. 1998	
	38	L. TORDELLA et al.; "High repetition rate passively Q-switched Nd <sup>3+</sup> :Cr <sup>4+</sup> all-fibre laser", Electronics Letters vol 39 (2003) pp. 1307-1308	

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	39	R.P. TUMMINELLI et al.; "Integrated-Optic ND-Glass Laser Fabricated by Flame Hydrolysis Deposition Using Chelates", OPTICS LETTERS Vol.16 Iss.14 Pgs: 1098-1100, Published: JUL 15 1991	
	40	R.P. TUMMINELLI et al.; "Fabrication of High-Concentration Rare-Earth Doped Optical Fibers Using Chelates", J. of Lightwave Tech. Vol 8 Is 11, p 1680-1683 NOV 1990	
	41	K. WAKASUGI et al.; "Preparation of Glasses Containing Rare Earth Oxide by CO <sub>2</sub> Laser", J. of the Soc. Of Materials Science, Japan, Vol 55, No. 7, pp 675-678 July 2006	English Abstract
	42	M.H. WATANABE et al.; "Fabrication of Yb2O3-SiO2 core fiber by a new process", Proceedings ECOC 1985, pp. 15-18 (IOOC-ECOC '85, Venice)	
	43	L.M. YANG et al.; "Chirped pulse amplification of ultrashort pulses using neodymium and erbium doped fiber amplifiers," Springer Series in Chemical Physics, Ultrafast Phenomena, IX, printed 1994, pp. 187-189	
	44	H. ZELLMER et al.; "Double-Clad Fiber Laser with 30W Output Power," OSA TOPS Vol. 16, Optical Amplifiers and Their Applications, 1997, pp.137-140, paper: FAW18	
	45	H. ZELLMER et al.; "High-power cw neodymium-doped fiber laser operating at 9.2 W with high beam quality, Optics Letters, Vol. 20, No. 6, Mar. 15, 1995, pp. 578-580.	
	46	J.E. TOWNSEND, "The development of optical fibres doped with rare-earth ions," PhD Thesis, University of Southampton, Apr 1990, pages 249-252	
	47	R.P. TUMMINELLI et al., File History of US Pat. Appl. No. 07/648726, issued as US Pat. No. 5121460	
	48	Non-final Office Action in Ex Parte Reexamination 90/008,971 dated March 30, 2009.	
	49	Amendment in Ex Parte Reexamination 90/008,971 under 37 C.F.R. 1.111 dated June 1, 2009, with Appendix, Declaration of Dr. Wayne H. KNOX, and declaration of Dr. Peter. C. SCHULTZ	

## EXAMINER SIGNATURE

Examiner Signature	Date Considered
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